ABSTRACT

A solid polymer fuel cell (1) has an electrolyte membrane (2), and an air electrode (3) and a fuel electrode (4) that closely contact to opposite sides of the electrolyte membrane (2) respectively. The electrolyte membrane (2) has a membrane core (9) comprising a polymer ion-exchange component, and a plurality of phyllosilicate particles (10) that disperse in the membrane core (9) and are subjected to ion-exchange processing between metal ions and protons, and proton conductance Pc satisfies Pc > 0.05 S/cm. Owing to this, it is possible to provide the solid polymer fuel cell equipped with the electrolyte membrane (2) that has excellent high-temperature strength and can improve power-generating performance.